Ozone Media Kit

U.S. Environmental Protection Agency

OZONE MEDIA KIT CONTENTS

Ozone Media Kit

U.S. Environmental Protection Agency

OZONE AT A GLANCE

National Ozone Air Pollution Season: May 1- October 31

What is ozone?
Ozone is a gas created when NOx (nitrogen oxides) and VOCs (volatile organic compounds) chemically react with the sun. Ozone is the primary ingredient of summertime smog.

Good ozone vs. bad ozone
Ozone occurs in two layers of the Earth's atmosphere.

- In the stratosphere: 10 to 30 miles above the surface of the Earth, the stratospheric ozone layer protects life from harmful ultraviolet rays
- On the ground: up to 10 miles above the Earth's surface, in the troposphere, ground-level ozone can damage human health, crops and buildings

Ozone formation
Ozone is not emitted directly into the atmosphere. It forms when the chemicals that create ozone (NOx and VOCs) are emitted into the atmosphere and cook in the sun. These chemical emissions come from mobile and stationary sources.

Mobile and stationary sources
Mobile sources include cars, buses and trucks, as well as on-and off-road sources such as bulldozers, trains, planes, agricultural equipment and gas-powered lawn and garden equipment. Stationary sources include chemical production plants, refineries, electric utilities and other factories.

Major sources of NOx (nitrogen oxide) emissions
Utilities, industrial fuel combustion and motor vehicles.

Major sources of VOC (volatile organic compound) emissions
Industrial and commercial processes, motor vehicles and consumer solvents such as oil-based paints, lighter fluid, aerosol sprays and evaporation of gasoline from refueling and spillage.

Human health problems — especially in children
When people breathe ground-level ozone air pollution, the lining of their lungs can become irritated and inflamed. Children are especially susceptible to problems caused by ground-level ozone for several reasons: 1) they are frequently active outdoors and more likely to be exposed, 2) they are more likely to have asthma, which can be aggravated by ozone, and 3) their lungs are still developing. Other groups that are particularly vulnerable are people with asthma and other respiratory conditions and people who are active outdoors.

(MORE)

Crop damage
Ground-level ozone interferes with a plant's ability to produce and store food. Crops become more susceptible to damage from insects, harsh weather and other pollutants. Annual crop damage from ozone is estimated at $500 million in the U.S. alone.

Other environmental effects
Ozone damages the foliage of trees and plants, hurting the appearance of many cities, national parks, forests and outdoor recreation areas.

Transported emissions
Nitrogen oxide emissions can be transported by winds and can form ozone pollution hundreds of miles away from the original sources. Atmospheric transport can cause ozone levels to be high in rural areas — even in pristine areas. Some national parks, including the Great Smoky Mountains and Shenandoah, have higher ozone levels than some cities.

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OZONE AIR POLLUTION AND HEALTH

Studies have indicated that exposure to ground-level ozone air pollution, even at very low levels, can cause a number of health effects — particularly over time.

Symptoms of Ozone Exposure
When people breathe ozone air pollution, the lining of their lungs can become irritated and inflamed, much like a sunburn on the skin. Other symptoms include:

- coughing
- wheezing
- pain when taking a deep breath
- breathing difficulties during exercise or outdoor activities

Who's at Risk?

- children who are active outdoors
- adults who work or exercise vigorously outdoors
- people with respiratory diseases such as asthma or emphysema
- people with unusual susceptibility to ozone

MORE ON WHO'S AT RISK

Immediate Problems - Within 24 Hours of Exposure

- respiratory symptoms such as coughing, wheezing and difficulty breathing as deeply and vigorously as normal
- pain when taking a deep breath
- airway inflammation
- aggravated asthma or other respiratory diseases
- increased susceptibility to respiratory infection

MORE ON ASTHMA

Long Term Problems

- accelerated aging of the lungs
  - diminished lung capacity
  - decreased lung function
- aggravated asthma, bronchitis and emphysema

Actual Risk Factors Depend On:

- current health and susceptibility to ozone
- ozone levels
- length of exposure to polluted air
- breathing rate (or exertion level)

MORE ON HEALTH RISKS

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HEALTH RISKS

How does ozone affect health?

Scientists have been studying the effects of ozone on human health for many years. So far, they have found that ozone primarily affects the respiratory system. Roughly one out of three people in the U.S. is at risk of experiencing ozone-related health effects.

Ozone can irritate your respiratory system

When this happens, you might start coughing, feel an irritation in your throat, and/or experience an uncomfortable sensation in your chest. These symptoms can last for a few hours after ozone exposure and may even become painful.

Ozone can reduce lung function

When scientists refer to "lung function," they mean the volume of air that you draw in when you take a full breath and the speed at which you are able to blow it out.

Ozone may make it more difficult for you to breathe as deeply and vigorously as you normally would. When this happens, you might notice that breathing starts to feel uncomfortable. If you are exercising or working outdoors, you may notice that you are taking more rapid and shallow breaths than normal. Reduced lung function can be a particular problem for outdoor workers, competitive athletes and others who exercise outdoors.

Ozone can make asthma symptoms worse MORE ON ASTHMA

When ozone levels are high, more asthmatics have attacks that require a doctor's attention or the use of additional medication. One reason this happens is that ozone makes people more sensitive to allergens, which are common triggers for asthma attacks. Some of the common asthma triggers are dust mites, cockroaches, pets, mold and pollen. Asthmatics may also be more severely affected by ozone-induced respiratory irritation and reduced lung function than non-asthmatics.

Ozone can inflame and damage the lining of the lung

Some scientists have compared ozone-caused lung damage to a sunburn. Ozone damages the cells that line the air spaces in the lung. Within a few days, the damaged cells are replaced and the old cells are shed – much in the way skin peels after a sunburn. If this kind of damage occurs repeatedly, it may lead to permanent damage to your lungs that could cause a lower quality of life.

Scientists suspect that ozone may cause other health problems

Ozone may aggravate chronic lung diseases, such as emphysema and bronchitis. Studies in animals suggest that ozone also may reduce the immune system's ability to fight off bacterial infections in the respiratory system.

Scientists are concerned that repeated short-term damage from ozone exposure may permanently injure the lung. For example, repeated ozone damage to the developing lungs of children may reduce their lung function when they are adults. In addition, ozone exposure may speed up the decline in their lung function that occurs as a natural result of aging.

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WHO'S AT RISK?

Who's at risk from ground-level ozone?

Four groups of people are particularly sensitive to ozone. These groups become sensitive to ozone when they are active outdoors, because physical activity (such as jogging or outdoor work) causes people to breathe faster and more deeply. During activity, ozone penetrates deeper into the parts of the lungs that are more vulnerable to injury. Sensitive groups include:

Children

Active children are the group at highest risk from ozone exposure. Many children spend a large part of their summer vacations outdoors, engaged in vigorous activities either in their neighborhoods or at summer camps.

- Children are also more likely to have asthma or other respiratory illnesses
- Asthma is the most common chronic disease for children and may be aggravated by ozone exposure
- Because their lungs are still developing, there is concern that children may be more susceptible than adults to ozone

Adults who are active outdoors

Healthy adults of all ages who exercise or work vigorously outdoors are considered a "sensitive group" because they have a higher level of exposure to ozone than people who are less active outdoors.

- Healthy adults can experience a 15 to 20 percent reduction in lung function from prolonged exposure to low levels of ozone
- Damage to lung tissue may be caused by repeated exposure to ozone and this could result in reduced quality of life as people age
- Results of animal studies suggest that repeated exposure to ozone for several months or more may produce permanent structural damage to the lungs

People with respiratory diseases, such as asthma

There is no evidence that ozone causes asthma or other chronic respiratory disease, but these diseases do make the lungs more vulnerable to ozone's effects. People with these conditions will generally experience the effects of ozone earlier and at lower levels than less-sensitive individuals.

People with unusual susceptibility to ozone

Scientists don't yet know why, but some healthy people are simply more sensitive to ozone than others. These people may experience more health effects from ozone exposure than the average person.

Scientists have studied other groups to find out whether they are at increased risk from ozone. So far there is little evidence to suggest that either the elderly or people with heart disease have heightened sensitivity to ozone. However, like other adults, elderly people will be at higher risk from ozone exposure if they suffer from respiratory disease, are active outdoors, or are unusually susceptible to ozone as described above.

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ASTHMA

What's asthma?

- Asthma is a chronic inflammatory disease of the airway
- During an asthma attack, the airways can become so narrow or obstructed that breathing may feel like sucking a thick milkshake through a straw
- Airflow can be limited by:
  - broncho-constriction (airway narrowing)
  - inflammation (airway walls get thicker, so airways are narrower)
  - mucus production

Asthma facts

- Asthma is a growing threat to children and adults
- Children make up 28 percent of the general population, but comprise about 36 percent of the people with asthma
- Fifteen Americans die every day from asthma, a rate three times greater than just 20 years ago. African-Americans die from asthma at a rate three times that of Caucasians
- Ozone may aggravate asthma, causing more asthma attacks that require increased medication use and increased need for medical care
- Studies indicate that the number of visits to emergency rooms and the number of hospital admissions increase about 24 hours after ozone levels are high

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THE AIR QUALITY INDEX (AQI)

THE AIR QUALITY INDEX (AQI)

Ozone can cause serious respiratory problems for people of all ages — even healthy people. But people can't take steps to protect themselves unless they know when they're at risk.

That's why EPA created the Air Quality Index, a color-coded scale that provides information on local air quality and levels of health concern. The AQI also includes messages to help you know when to consider changing your activities.

State and local air agencies are required to report the Air Quality Index any time several pollutants — including ozone — reach unsafe levels. Many agencies report the AQI for ozone throughout the summertime ozone season. You can find the index on your local air agency Web site, or in many newspapers or TV weather forecasts.

Using the AQI is easy. When the AQI is forecast to hit above 100 (that's code orange, red or purple), pay attention! That's when you may need to adjust your daily activities so you or your children can breathe easier. You may need to:

- Exercise in the morning or later in the evening, when pollution levels are usually lower;
- Spend less time participating in vigorous outdoor activities;
- Take it a little easier when you're outside. Don't overexert yourself;
- Limit children's prolonged, strenuous outdoor activity;
- Ask coaches to rotate players out more frequently; and
- Pay attention to respiratory symptoms, such as coughing, wheezing and discomfort when you take a deep breath.

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TIP SHEET

Here are some ideas for reporting ozone air pollution

- Take a quick, unscientific “on-the-street” poll to see whether people in your community understand the difference between ground-level ozone and stratospheric ozone. Use your story to explain the difference to the rest of your community.

- Is ozone pollution on the rise or the decline in your community? Use information from EPA’s Air Quality Trends Report and work with your state/local air pollution control agency to take a historic look at ozone pollution in your area. Why is it going up? What actions helped reduce it? Don’t forget to look at the weather, too — that can play a major role.

- Work with your local hospital to do a story on emergency room visits because of asthma. Are these visits up in the summertime? What do doctors see as the reason?
  NOTE: Hospital visits and emergency room visits typically increase about 24 hours after ozone levels are high. This is because it takes time for the inflammation to develop in the airways.

- Forecasting (good for a sidebar). Meteorologists used to focus only on the weather. Now many are being pulled into another type of prediction: air quality forecasting. Find out whether your city or state forecasts air quality, and tell your readers, viewers or listeners how it’s done — and why it’s important.

- Does your state or local air pollution control agency announce ozone action days? Find out what major employers in the area are doing to reduce pollution on those days. What’s your local government doing? Your state/local air pollution control contacts may have suggestions for places to start.

- Cover clean air activities in your community. Run a side bar with your story that includes tips for reducing ozone — and protecting yourself from ozone damage.

- Don’t forget plants. Nationwide, about $500 million in crop damage is attributed to ozone every year. Find plant pathologists or agriculture experts who can talk to you about ozone and crops in your state.

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SAMPLE NEWS STORIES

NEWS STORY

OZONE EXPOSURE: WHO'S AT RISK?

Ask any asthmatic and you're likely to hear about summertime coughing, wheezing, chest tightness and difficulty in breathing normally. The reason? Ozone that forms when pollution cooks in the sun. Ozone aggravates asthma and other respiratory problems — and we're all at risk. Ground-level ozone, even at relatively low levels, can inflame and damage cells in your lungs. Long-term exposure to ozone may have permanent health effects that show up in later years.

Some groups of people are more at risk than others. Children are particularly susceptible to ozone's effects because:

- They are the most likely to engage in vigorous outdoor activity during the hot summer months
- Children are more likely to have asthma or other respiratory illnesses that may be aggravated by ozone exposure
- Their lungs are still developing, so they may be more susceptible to ozone than adults

Asthmatics and people with other chronic lung disease such as emphysema and bronchitis are more severely affected by ground-level ozone, because it aggravates their conditions. These people generally experience effects of ozone earlier and at lower levels than less-sensitive people. Adults engaged in vigorous outdoor activities are also at a higher risk for respiratory problems when ozone levels are elevated.

(MORE)

Although we can't choose what air we breathe, we can choose to decrease the amount of pollution we put into our air. These small steps can make a big difference in air quality:

- Conserve energy:
  - turn off unnecessary lights and appliances
  - clean air conditioner filters often
  - close blinds during the day
  - turn your air conditioner to a slightly higher setting
  - look for the Energy Star label when buying appliances and electronics
- Don't drive as much
- Keep your car tuned
- Carpool, walk, bicycle, or use public transportation — especially on hot summer days
- Fill your gas tank after sundown when it's cooler
- Be careful not to spill gasoline when filling up your car, lawn mower or other equipment
- Make sure your car's tires are properly inflated and that your wheels are aligned
- Keep household and garden cleaners, chemicals and solvents tightly sealed when you're not using them
- Contact your local electric utility district to find out about energy conservation programs

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NEWS STORY

PERSONAL OZONE ACTION PLAN

You know that ground-level ozone is bad. Air quality is so unhealthy in some regions that some people are warned to limit outside activities during days when ozone levels are high.

Our behavior creates ozone air pollution and it's not going away by itself. This is a battle that can be won or lost by individual choices made every day. There are a lot of ways for you to be on the winning side. You *can* make a difference.

There are many sources of air pollution, with the largest contributor varying from region to region. One thing is certain, however: cars contribute huge amounts of pollution wherever you live. Keep this in mind every time you turn the key in the ignition. Ask yourself whether you have to drive. Could you carpool, walk, bicycle or use mass transit? During the summer smog season, less driving means less ground-level ozone air pollution and that's good for everyone.

If you have to drive, reduce the amount of pollution your car generates. Keep your car tuned; make sure the tires are properly inflated; and fill up the gas tank in the evening when it's cooler. Ground-level ozone is not a small problem, but small steps will improve it.

Here's what you can do:

- Research the air quality in your neighborhood through your state or local air pollution control agency www.epa.gov/airnow
- Check out whether your city or state provides air quality forecasts
- Find out what your local government is doing about the problem
- Tell your friends, family and co-workers how they can protect their health by using Air Quality Index (AQI) forecasts

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NEWS STORY

REDUCING SUMMER OZONE AIR POLLUTION IS EVERYONE'S BUSINESS

Ground-level ozone is a powerful irritant that can trigger a variety of health problems — even for healthy people. Chest tightness, coughing and wheezing are common symptoms of short-term exposure to ozone. Unfortunately, repeated exposure to ozone, even at low levels, may cause permanent lung damage. The U.S. EPA has provided these guidelines to help you protect your health this summer and to help you do your part to keep unhealthy ozone from forming.

Health Tips

Stay informed about air quality in your region. Check the daily Air Quality Index (AQI) in your local paper so you can take precautions when ozone levels are high.

How to Reduce Ozone Air Pollution

Make different choices:

- Conserve energy:
  - turn off unnecessary lights and appliances
  - clean air conditioner filters often
  - close blinds during the day
  - turn your air conditioner to a slightly higher setting
  - look for the Energy Star label when buying appliances and electronics
- Drive less — carpool, ride a bike, walk or use public transportation
- Keep your car tuned
- Keep your tires properly inflated and wheels aligned
- Fill your gas tank after sundown when it's cooler
- Keep household and garden cleaners, chemicals and solvents tightly sealed

Get the word out to people in your community:

- Research the air quality in your neighborhood through your state or local air agency
- Check out whether your city or state provides air quality forecasts
- Find out what your local government is doing about air quality problems
- Tell your friends, family and co-workers how they can protect their health by using the AQI
- Participate in your electric utility's energy conservation programs
- Participate in ozone action day programs

When the AQI is forecast to hit above 100 for ozone, you can breathe easier by:

- Exercising in the morning or later in the evening when pollution levels are usually lower
- Spending less time participating in vigorous outdoor activities
- Taking it a little easier when outside; don't overexert yourself
- Limiting children's prolonged, strenuous outdoor activity
- Asking coaches to rotate players out more frequently
- Paying attention to respiratory symptoms such as coughing, wheezing and discomfort when you take a deep breath

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NEWS STORY

AN INDEX MORE IMPORTANT THAN THE DOW

For many people, looking at the Dow in a newspaper is a daily routine. They check out what's happening to protect their financial health. Now, there's an index that you should check out in the daily paper to protect your physical health — the Air Quality Index, or AQI.

The AQI is an easy, color-coded numerical scale that provides information on local air quality. It gives you the information you need to know so you can limit your exposure to air pollution.

When do you need the AQI for ozone? During the long, hot days of summer, when pollution from cars, trucks, buses, factories, and many other sources cook in the heat creating ground-level ozone. Ozone can cause serious respiratory problems for people of all ages — even healthy people. Using the AQI forecast helps reduce your health risk.

When the AQI is forecast to hit above 100 for ozone (code orange, red or purple), consider adjusting daily activities so you breathe easier:

- Exercise in the morning or later in the evening when pollution levels are usually lower
- Spend less time participating in vigorous outdoor activities
- Take it a little easier when outside; don't overexert yourself
- Limit children's prolonged, strenuous outdoor activity
- Ask coaches to rotate players out more frequently
- Pay attention to respiratory symptoms such as coughing, wheezing and discomfort when you take a deep breath

Check out the AQI on your local air agency's Web site or in your paper to find out what you're breathing. It's a daily routine that will protect your health.

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NEWS STORY

OZONE MAPPING JOINS THE RANKS WITH DOPPLER RADAR

Did you know you can watch ozone air pollution in motion? Ozone maps show you a day's worth of pollution much the same way Doppler Radar shows the movement of rain showers.

Created in 36 states with data collected from a vast network of air pollution monitoring sites, the maps show animated movies of ground-level ozone concentrations throughout the day. In just seconds, you can watch the day's ozone levels change from morning lows to high levels in the late afternoon or early evening.

The maps are color-coded to coincide with the U.S. Environmental Protection Agency's Air Quality Index (AQI). "Good" levels, for example, are depicted as green, while "unhealthy" levels are shown as red.

When combined with air quality forecasts, these maps can help you take steps to protect your health and the health of those you care about. Weather service providers, local TV stations and some networks are using ozone maps as part of their daily forecasts during the summer, when ozone levels are at their worst.

It's important to be aware of ozone concentrations in the air you breathe — especially when you consider that the average adult takes about 20,000 breaths each day. Ozone can aggravate asthma and other respiratory problems, and it may pose a health risk for children and adults exerting themselves outdoors for extended periods. Over time, ozone exposure may permanently scar lung tissue, making it more difficult to breathe as you get older.

Ozone maps are available for participating states at EPA's ozone mapping site at www.epa.gov/airnow and through some local and state air program Web sites. Daily ozone maps are available around 9:00 a.m. with updates occurring every two hours. Forecasts for more than 150 U.S. cities are available after 4 p.m. for most areas.

Ozone Air Pollution Resource Sites

http://www.epa.gov/airnow

- Daily Ozone Forecasts (more than 150 cities)
- Ozone Forecast Maps-Northeast
- Links to State Ozone Forecast Web Sites
- AQI for 36 cities also available daily in USA Today

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AIR POLLUTION FACTS AND FIGURES

What is ground-level ozone?
Ozone is a colorless gas formed when nitrogen oxides (NOx) and volatile organic compounds (VOCs) chemically react in the sun. Ozone is a major component of smog — especially during the summer, when weather conditions are ripe for ground-level ozone to form.

VOC + NOx + sunlight = OZONE

Good ozone vs. bad ozone

- Ozone occurs in two layers of the Earth's atmosphere
- Ozone in the stratosphere — 10 to 30 miles above the Earth's surface – protects us from harmful ultraviolet rays
- Ground-level ozone can damage human health, crops — and even buildings

Where does the ozone in smog come from?
Ozone isn't emitted directly into the air from smokestacks and tailpipes. But the chemicals that create ozone — nitrogen oxides (NOx) and volatile organic compounds (VOCs) are. Major sources of NOx include motor vehicles, utilities and industry. Human-made sources of VOCs include industrial and commercial processes, motor vehicles and consumer solvents.

Transported NOx
Did you know that pollution in your home town can cause problems hundreds of miles away? The pollution that causes ozone is carried by winds. So nitrogen oxides (NOx) emitted in your home town may form ozone — and aggravate someone's asthma miles and miles away.

Ozone hurts crops
Ground-level ozone interferes with plants' ability to produce and store food. That makes them more susceptible to disease, insects, harsh weather and other pollutants. Ozone is responsible for about $500 million in reduced crop production in the U.S. every year.

Pollution spoils the view
Ever go to the mountains and see a white or brown haze instead of the clear vista you expected? It's not uncommon — and it's caused by air pollution, sometimes from hundreds of miles away. The same pollutants that form ozone also contribute to this haze, along with tiny particles that scatter light, especially when the air is humid. Without pollution, you'd be able to see three times as far as you can now from many locations in the East. In the West, you'd be able to see twice as far.

(MORE)

Ozone can harm your health. It can:

- Irritate your respiratory system
- Reduce lung function, making it more difficult for you to breathe as deeply as you normally would
- Aggravate asthma
- Inflame and damage cells that line your lungs
- Aggravate chronic lung diseases
- Repeated exposure to ozone may cause permanent lung damage

Symptoms of ozone exposure include

- Coughing
- Throat irritation
- An uncomfortable sensation in your chest (especially when taking a deep breath)
- Difficulty breathing as deeply as normal
- These symptoms can last for a few hours after ozone exposure and may even become painful

A sunburn — inside?

That's right. Ozone can inflame and damage cells that line your lungs. In a few days, the damaged cells are replaced, and the old cells shed — much like your skin peels after a sunburn.

Ozone pollution is a big problem

In 1999, more than 120 million Americans lived in U.S. counties with ozone levels above EPA's health standards.

Who's at risk from ground-level ozone:

- Active children
- Active adults
- People with asthma or other respiratory diseases
- People with unusual susceptibility to ozone

Why active children are at the highest risk from ozone exposure:

- They're the most likely to engage in vigorous outdoor activity during the summer
- They're more likely to have asthma, which ozone may aggravate
- Their lungs are still developing, so they may be more susceptible than adults

(MORE)

Ozone can harm active adults

- Healthy adults of all ages who exercise or work vigorously outdoors have a higher ozone exposure level than less-active adults. Over time, this can cause serious problems
- Prolonged exposure to low levels of ozone can reduce a healthy adult's lung function by 15 to 20 percent
- Repeated ozone exposure can damage lung tissue. The possible result? A reduced quality of life as people age

Some people are unusually susceptible to ozone

Scientists don't yet know why, but some healthy people are simply more sensitive to ozone than others. These people may experience more health effects from ozone exposure than the average person.

What's asthma?

- Asthma is a chronic inflammatory disease of the airway
- During an asthma attack, airways can become so narrow or obstructed that breathing may feel like sucking a thick milkshake through a straw
- Air flow may be limited by: broncho-constriction (airway narrowing); swelling of airway walls, which also narrows airways; and mucus production

Asthma: a growing threat to children and adults

- Children are more likely to have asthma than anyone else
- Children make up 28 percent of the population, but account for 36 percent of asthmatics
- Emergency room visits and hospital admissions for asthma increase about 24 hours after ozone levels are high
- Fifteen Americans die every day from asthma, a rate three times greater than just 20 years ago. African-Americans die from asthma at a rate three times that of Caucasians

How you can protect yourself:

- When ozone levels are high, shorten your activity, engage in something less strenuous, or plan outdoor activities when ozone levels are lower – usually in the early morning or evening
- Don't forget to pay attention to ozone forecasts and the Air Quality Index in your area!

(MORE)

Ozone Media Kit

U.S. Environmental Protection Agency

Ozone hurts the places we play

Ozone damages the foliage of trees and other plants, hurting the appearance of cities, national parks, forests and recreation areas.

Things you can do to reduce ground-level ozone

- Keep your car tuned
- Carpool, walk, bicycle, or use mass transit — especially on hot summer days
- During the summer, fill your gas tank after sundown, when it's cooler
- Be careful not to spill gasoline when filling up your car, lawnmower or other equipment
- Make sure your car's tires are properly inflated and that your wheels are aligned
- Keep household and garden cleaners, chemicals and solvents well sealed when you're not using them. Dispose of them properly

Where to find more information

Want to know more about ozone and your health? Go to www.epa.gov/airnow.

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DOWNLOAD AND USE

Photos

- Doctor's Office/Medical
- Sensitive Groups
- Cityscape
- Healthy Lung Airway
- Inflamed Lung Airway
- Research

Graphics

- Link to Air Quality Index (AQI) chart
- AQI Logo
- Ozone Equation

Sound Bites

- Audio (MP3)
- Text

Ozone Maps

- Ozone Map Stills
- Ozone Map Archives

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SOUND BITES AND QUOTES

Quotes that are also available as downloadable MP3 audio sound bites are identified below.

Susan Stone, Environmental Health Scientist
U.S. Environmental Protection Agency
Quote: *"The Air Quality Index is an index for reporting daily air quality and the health effects associated with acute exposures to ozone.* **downloadable*

The greater the AQI value, the greater the pollutant concentration and health risk. A value greater than 100 indicates some degree of risk to susceptible populations. A value greater than 150 indicates risk to the general population." **downloadable*

Mark Frampton, MD
Associate Professor of Medicine, Pulmonary & Critical Care
University of Rochester School of Medicine
Quote: *"Here are some of the symptoms that people may experience on high-ozone days: cough is very common; chest discomfort, particularly during inspiration; and people often experience difficulty taking a deep breath and shortness of breath.* **downloadable*

What we know is that with exposure to ozone in the laboratory at levels comparable to outdoor levels in the summer in some cities, this kind of exposure can cause an influx of inflammatory cells into the distal airways of the lung. **downloadable*

The inflammatory process takes hours to develop. It starts within a few hours after exposure and may persist to 24 hours or more after a single exposure. **downloadable*

One thing we do know is that repeated, daily ozone exposures appear to reduce the intensity of both the inflammatory response and the lung function response. However, other indicators of airway injury do not decrease with repeated single exposures and this raises concern about potential adverse effects of long-term exposure to ozone. **downloadable*

I think the AQI is a very useful tool in working with patients with asthma or other inflammatory conditions of the airways." **downloadable*

(MORE)

LeRoy M. Graham, MD, FCCP, Pediatric Pulmonologist
Georgia Pediatric Pulmonology Associates, Atlanta, GA
Quote: *"I'd like to talk to you today about the use of the AQI or Air Quality Index. This tool recently developed by the EPA is a very good benefit to clinicians in helping us to educate our patients about the unhealthy effects of elevated ozone levels.* **downloadable*

The tool combines a quantitative measure of the ozone level with information to the patient on how to take appropriate actions when the air is unhealthy. **downloadable*

As a pediatric specialist, this is a very valuable tool to me in that I take care of a population of patients who are uniquely susceptible to some of the harmful effects of ozone. **downloadable*

I would strongly recommend the AQI or Air Quality Index as a useful tool to clinicians taking care of patients who might be susceptible to the deleterious effects of elevated ozone levels." **downloadable*

Dr. Jerry Shier, Assistant Clinical Professor
George Washington University School of Medicine
Quote: *"The majority of my patients with asthma do seem to have increased respiratory problems during the peak ozone periods, typically when the ozone is reaching the moderate or high level."* **downloadable*

Quote: *"When the ozone levels are high, patients seem to look like individuals who are having respiratory infections or respiratory allergy."* **downloadable*

Quote: *"Since many of my patients also have upper respiratory nasal allergies, or what you would refer to as hayfever, they also have problems secondary to the ozone. It doesn't lead to secondary infection, but their nasal allergies clearly are worse at that time."* **downloadable*

Quote: *"The Air Quality Index is a common report here in the Washington DC area, so I believe most respiratory physicians are familiar with the Index, using the different codes as far as colors are concerned as well as the numerical values. I use the numerical values to help my patients by telling them if the level of ozone is above 100, that's an area where they should start to restrict their activity. Clearly over 150 is an area where I'm more insistent that my patients limit their outdoor activities."* **downloadable*

(MORE)

Dr. Jerry Shier, Assistant Clinical Professor
George Washington University School of Medicine
Quote: *"I do advise my patients both with nasal allergies or with asthma to limit their activities based upon the Air Quality Index."* **downloadable*

Quote: *"Patients with asthma can be defined as mild, moderate and severe. Patients with mild, episodic asthma most likely in a mild and even a moderate range of ozone do not need to restrict their activity. Patients who have moderate asthma, or are requiring at least two medications on a daily basis, do need to monitor their Air Quality Index routinely because they will have exacerbations of their asthma if they spend an unusual amount of time outdoors."* **downloadable*

Quote: *"The Air Quality Index is a great tool and it's easily accessible to everyone through the news media."* **downloadable*

Quote: *"I would like to see both my patients as well as my fellow physicians use the Air Quality Index more often so that they can restrict their activities when the ozone range is in the orange or red zones."* **downloadable*

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STATE/LOCAL AIR POLLUTION CONTACT

State and Territorial Air Pollution Program Administrators
(STAPPA)
and
Association of Local Air Pollution Control Officials
(ALAPCO)

Stephanie Cooper
Washington DC
(202) 624-7864

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U.S. EPA HEADQUARTERS CONTACTS

Office of Air and Radiation	www.epa.gov/air Prudence Goforth Communications Director Washington DC (202) 564-7433
Office of Air Quality, Planning and Standards	Alison Davis Communications Director Research Triangle Park, NC (919) 541-7587 Debbie Stackhouse Outreach Coordinator Research Triangle Park, NC (919) 541-5354 Susan Stone Health Scientist Research Triangle Park, NC (919) 541-1146
Office of Research and Development	William McDonnell, M.D. Scientist Human Studies Division Research Triangle Park, NC (919) 966-6220

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EPA REGIONAL OFFICE CONTACTS

Region 1	Connecticut Massachusetts Maine New Hampshire Rhode Island Vermont	www.epa.gov/region1 Peyton Fleming Public Relations (617) 918-1032 Anne Arnold Environmental Engineer Air Quality Planning (617) 918-1047
Region 2	New Jersey New York Puerto Rico Virgin Islands	www.epa.gov/region02 Mary Mears Press Officer (212) 637-3669 Richard Cahill Press Officer (212) 637-3666 Nina Habib-Spencer Press Officer (212) 637-3670
Region 3	Delaware Maryland Pennsylvania Virginia West Virginia District of Columbia	www.epa.gov/region3 Patrick Boyle Communications Specialist (215) 814-5533 Kristen Gaffney Environmental Scientist Ozone and Mobile Sources (215) 814-2092

(MORE)

Region 4	Alabama Florida Georgia Kentucky Mississippi North Carolina South Carolina Tennessee	www.epa.gov/region4/ Carl Terry Acting Director Office of External Affairs (404) 562-8325
Region 5	Illinois Indiana Michigan Minnesota Ohio Wisconsin	www.epa.gov/region5/ Phillippa Canon Press Team Leader (312) 353-6218
Region 6	Arkansas Louisiana New Mexico Oklahoma Texas	www.epa.gov/earth1r6/ Dave Bary Press Officer (214) 665-2200
Region 7	Iowa Kansas Missouri Nebraska	www.epa.gov/region07/ Karen Flournoy Director Office of External Programs (913) 551-7003
Region 8	Colorado Montana North Dakota South Dakota Utah Wyoming	www.epa.gov/region8/ Vaughn Whatley Ozone Contact (303) 312-6603

Region 9	Arizona California Hawaii Nevada Guam American Samoa	www.epa.gov/region09/ Leo Kay Northern California (415) 744-2201 Lisa Fasano Central California, Hawaii, Nevada, Guam and American Samoa (415) 744-1587 Randy Wittorp Los Angeles Area (415) 744-1589 Sonia Altieri San Diego, CA and Arizona (415) 744-1588
Region 10	Idaho Washington Oregon Alaska	www.epa.gov/r10earth/ Bill Dunbar Public Affairs Specialist (206) 553-1203 Mark Macintyre Public Affairs Specialist (206) 553-7302

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RELATED LINKS

The following links contain additional information regarding air pollution, health and ozone-related information.

U.S. EPA AirNow Web Site	www.epa.gov/airnow
Data and Statistics	
• EPA link to AirTrends	www.epa.gov/airtrends
• EPA link to AIRSData	www.epa.gov/air/data/monsum.html
• American Lung Association	www.lungusa.org/air
State, Local and Tribal Programs	
• EPA Resource - State, Local and Tribal Air Programs	www.epa.gov/oar/partners.html
• State and Territorial Air Pollution Program Administrators	www.4cleanair.org/links.html
Asthma	
• EPA Indoor Air Program	www.epa.gov/iaq
• Centers for Disease Control and Prevention	www.cdc.gov/nceh/asthma
• American Lung Association	www.lungusa.org/asthma
• Asthma and Allergy Foundation of America	www.aafa.org
• National Heart, Lung and Blood Institute	www.nhlbi.nih.gov
Children's Health	
• EPA Office of Children's Health Protection	www.epa.gov/children/air.htm
• Children's Health Environmental Coalition Network	www.checnet.org/science/respoll.html
• American Lung Association	www.lungusa.org/air/envozoneparents.html
Research and Science	
• EPA Office of Research and Development	www.epa.gov/ORD
• National Oceanic and Atmospheric Administration	www.arl.noaa.gov
• National Council for Science and the Environment	www.cnie.org/nle/crsair.html
Additional Resources	
• Radio-Television News Directors Association	www.rtnda.org/resources/air/airhelp.shtml

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